

ABSTRACT

[0064] Signals from an imager pixel photodetector are received by an amplifier having capacitive feedback, such as a capacitive transimpedance amplifier (CTIA). The amplifier can be operated at a low or no power level during an integration period of a photodetector to reduce power dissipation. The amplifier can be distributed, with an amplifier element within each pixel of an array and with amplifier output circuitry outside the pixel array. The amplifier can be a single ended cascode amplifier, a folded cascode amplifier, a differential input telescopic cascode amplifier, or other configuration. The amplifier can be used in pixel configurations where the amplifier is directly connected to the photodetector, or in configurations which use a transfer transistor to couple signal charges to a floating diffusion node with the amplifier being coupled to the floating diffusion node.